Made In America:

The 1981 Japanese Automobile Cartel

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Study of
American Business
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Formal Publication Number 76

August 1986

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Introduction

In 1981, a cartel was born. About a half dozen companies agreed to reduce their sales of automobiles and trucks in the United States. They also agreed to a specific market-sharing arrangement that assigned a maximum number of vehicles each could sell. The end result was higher car and truck prices for American consumers and higher profits for the Japanese auto firms involved.

This price-gouging system continues to affect consumers today. The irony is that the whole scheme was instigated at the request of the American government. The auto cartel arrangements are known euphemistically as voluntary export restraints (VER). They were negotiated with the Japanese government and first announced by the Reagan Administration on May 1, 1981. Administered by Japan's Ministry for International Trade and Industry (MITI), the VER has extracted tribute from American auto buyers.

Robert Crandall of the Brookings Institution has documented the size of the increased amounts paid by American consumers for both their new imported and domestic cars. His data place this amount at $2.2 billion more for domestic cars.[1] The interests of American auto workers, however, do not coincide with consumers' interests and have helped provide the pressure on the United States government that resulted in the VER.

The auto cartel run by Japan's MITI primarily benefits the stockholders of the various auto assembly firms in Japan.

At first glance, the motivation of the Japanese auto firms and the Japanese government is less obvious. Statements in the U.S. press contemporaneous with the VER claimed that the Japanese automakers viewed the VER as a violation of free trade. Their government, however, had forced it on them in order to undercut attempts by American protectionist interests to legislate even more onerous restraints. This interpretation has gained some credence with American legislators, one of whom proposed a bill during 1984 to entice the Japanese to increase their imports of American agricultural products in return for removal of the auto VER.

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This interpretation, although popular, is nonetheless wrong. The auto cartel run by Japan's MITI primarily benefits the stockholders of the various auto assembly firms in Japan. Furthermore, as will be demonstrated later in this report, Japanese investors knew exactly what was going on when the VER was imposed.

The avowed purpose of the VER was to allow American firms time to catch up with the more efficient Japanese firms without letting the Japanese further increase their market share. The problems that the domestic firms experienced in producing the subcompact cars that higher oil prices encouraged were considerable in 1981. The hope was that a few years of protection would get them past this transition. Unfortunately, rather than clearly strengthening the position of U.S firms, the VER has actually encouraged the Japanese to expand into larger and more expensive cars, making them an even greater competitive threat.

The purpose of this study is to examine the effect of the auto VER on Japanese firms and on the U.S. auto market. The likely impact of the decreased value of the dollar versus the yen is also analyzed. The report concludes with recommendations vis-a-vis the advisability of encouraging the Japanese to continue their automobile cartel arrangements.

A Short History of Japanese Voluntary Export Restraints

As recently as 1979, American motor vehicle manufacturers worried about their ability to produce enough big cars. Gasoline prices, stabilized at 50 to 60 cents a gallon, helped to fuel this demand. So the auto companies expected a profitable year.

But this prospect soon disappeared when the Organization of Petroleum Exporting Countries (OPEC) raised the price of a barrel of crude oil from less than $10 to over $20. Retail gasoline prices rose to an average of $1.31 a gallon by the end of 1980. Car buyers reacted just as they did to the increases in gasoline prices in 1974-75. They bought small foreign cars, particularly imports from Japan, at a record rate. The Japanese share of the U.S. market rose to 27 percent in 1980 and was expected to increase further in 1981.

By late 1980, an estimated 210,000 American auto workers were out of work and both the United Auto Workers and most of the car makers were pushing mightily for some sort of protectionist relief. Ford announced a record annual loss of $1.5 billion, and eight days later Chrysler broke that record with a mark of $1.7 billion. The Big Three auto firms lost $4 billion in 1980.

The election of Ronald Reagan in November of that year initially seemed to be a blow to the protectionist forces. But by January 7, 1981, the *New York Times* reported that Commerce Secretary-designate Malcolm Baldridge had recommended the President-elect meet with the Japanese government to

discuss voluntary limits on auto imports. When the Administration had been in office for two weeks without making any further pronouncements, Congress began to stir. Senators John Danforth (R - Mo.) and Lloyd Bentsen (D - Texas) said they would introduce a bill to restrict entry of Japanese cars into the United States. White House aides said on February 23 that Transportation Secretary Drew Lewis was preparing a task force report to be ready in early March. The report was expected to pave the way for voluntary export restraints.

In spite of this indication, there were also signs from the Administration that the VER was not a certainty. On March 9, U.S. Trade Representative William Brock described as speculative a hopeful *Detroit News* article that reported the Japanese had agreed to voluntary quotas. The importance of Japanese acquiescence was emphasized on March 19 when Attorney General William French Smith was reported to have advised Brock that a VER would be subject to private antitrust suits if it were not approved by the Japanese government. The uncertainty continued on March 24 with indications that the Administration had decided to encourage the Japanese to impose a VER, but without the United States explicitly requesting one. The same day, a Japanese government spokesman vetoed this approach by saying his government would not act unless it were specifically asked to do so by the U.S. government.

Congressional action continued. On April 3, Danforth asked Senate Finance Committee chairman Robert Dole (R - Kan.) to schedule committee action on his bill imposing quotas on Japanese auto imports. Events soon overtook this legislation, which never left the committee.

The first clear indication of Japanese intentions became public on the 21st of April when MITI announced it was preparing a "compromise" plan to limit auto exports to America to 1.7 million for 1981. This figure, which was formally adopted, was 120,000 lower than actual 1980 exports. Although a VER now seemed inevitable, its level still appeared uncertain. On April 25, the *New York Times* reported that the Japanese government was denying reports that it had decided on the *level* of voluntary restraints.

Finally, on May 1, 1981, the American and Japanese governments simultaneously announced their agreement to restrain auto exports for a three-year period. The quota for the first year was set at 1.68 million. Further details were still to be negotiated, including how the quota would be allocated among Japanese auto firms, but speculation was that each firm would get the market share it had achieved in the previous year.

The second shoe dropped in June. *The Wall Street Journal* reported that MITI had told the Japanese auto firms how many cars each would be allowed to sell in the United States during the 12 months ending on March 31, 1982. The market shares allowed were proportional to 1979 sales by the firms. Table 1 shows these quotas, as well as the later allocations self-imposed by the Japanese in 1985 and 1986.

As mentioned earlier, the dominant view expressed by both American commentators and the Japanese industry was that the quotas were accepted by the

Table 1

VOLUNTARY EXPORT RESTRAINT QUOTAS FOR JAPANESE AUTO ASSEMBLY FIRMS, 1981–1987

Firm	1-Apr-81 to 31-Mar-84	1-Apr-84 to 31-Mar-86	Increase in Quota	1-Apr-86 to 31-Mar-87	Increase in Quota
Toyota*	517,000	552,000	6.8%	620,800	12.5%
Nissan	456,000	487,000	6.8%	547,900	12.5%
Honda	349,000	372,000	6.6%	428,600	15.2%
Mazda	159,000	174,000	9.4%	229,700	−32.0%
Mitsubishi	112,000	122,000	8.9%	186,200	52.6%
Isuzu	17,000	50,000	194.1%	117,100	134.2%
Fuji (Subaru)	70,000	76,000	8.6%	117,200	54.2%
Suzuki	0	17,000	100.0%	52,500	208.8%
Total Passenger Cars	1,680,000	1,850,000	10.1%	2,300,000	24.3%

*Includes Daihatsu production sold by Toyota.
Source: New York Times, various issues.

Japanese because the alternative was legislation, such as the Danforth-Bentsen bill, which would have been far more restrictive than the VER. This report examines whether these public statements should be taken at face value. One of the best ways to analyze this question is to ask another question: How did Japanese investors evaluate the effect of the VER?

In particular, if the VER adopted in 1981 was effectively the creation of a cartel, informed investors should have expected it to raise prices and profits for Japanese auto firms. That expectation should have caused investors to bid up the price of these firms' common stock as soon as the information became widely available. On the other hand, if Japanese auto firms were likely to suffer as a consequence of the lessened opportunity to sell in the American market, stock prices for these companies should have fallen when the news was announced.

Impacts of the VER on Japanese Auto Firm Values

Table 2 corroborates the view that Japanese investors reacted to the American-authorized MITI cartel as good news. The table provides information about the number of shares outstanding for each of the six

Table 2

CHANGES IN THE VALUE OF THE COMMON STOCK OF JAPANESE AUTO FIRMS APRIL 1, 1981 TO JULY 1, 1981

Firm	Shares Issued (000)	Price 1-Apr-81 (Yen)	Firm Value* 1-Apr-81 ($ Million)	Price 1-May-81 (Yen)	Firm Value 1-May-81 ($ Million)	Price 1-Jul-81 (Yen)	Firm Value 1-Jul-81 ($ Million)
Daihatsu*	366,000	248.0	$319.7	275.0	$354.5	292.0	$376.4
Fuji	124,027	351.8	$153.7	386.4	$168.8	433.6	$189.4
Honda	240,000	664.5	$561.6	900.0	$760.7	1,045.5	$883.6
Mazda	727,732	296.4	$759.5	350.9	$899.3	429.1	$1,099.7
Nissan	1,592,597	603.3	$3,383.7	739.7	$4,148.6	892.6	$5,006.1
Toyota	1,760,000	135.4	$839.1	179.5	$1,112.3	228.3	$1,414.8
Total			$6,017.4		$7,444.2		$8,970.1
Increase in Value over 1-April-1981					$1,426.8		$2,952.7

*Using the 1981 average exchange rate of 220.1 yen/$.

*Daihatsu is an independent auto maker producing cars that are sold in the United States and Japan under the Toyota brand name.

Source: The Japan Economic Journal and Tokyo Stock Exchange quotes.

Japanese auto firms and the stock price on April 1, 1981, before any concrete information about a possible VER was made public. The value of that common stock, simply the price multiplied by the numer of shares issued, represents the market's estimate of each firm's net worth.

One month later, the stock price for all of the Japanese auto firms had risen an average of 24 percent, raising the total value of the firms by about $1.4 billion. Although not all of this rise can be attributed to the MITI announcement on April 21, clearly something caused investors to view auto assembly firms as a much better investment.

Two months later, MITI formally announced the American VER and the market shares of each car firm. In addition, it negotiated a new VER with the Federal Republic of Germany. The result was that auto firm stock prices rose an average of 16 percent. The total rise in market value for these six firms was $3.0 billion.

It would appear from these data that Japanese investors anticipated that the VER would create a cartel arrangement that would help the auto firms. Since most Japanese equity is held by banks, insurance firms and other manufacturing concerns and not by individuals, the typical investor is sophisticated in corporate business matters. If these investors knew the profit implications of the VER, then the executives of the Japanese auto firms certainly also knew.

But this evidence is anecdotal. Fortunately, using a technique called "event analysis," the data on stock prices can be more carefully analyzed and greater empirical accuracy can be obtained. This analysis is required to determine whether the announcements by MITI were actually the important factor in raising auto stock prices or whether other possible causes were responsible.

Event Study of the Effect of the May 1, 1981 VER on Japanese Auto Stock Prices

An event study is a method of analysis that investigates the effect of an event on the value of assets closely tied to the event. A common form of event study attempts to relate abnormal returns to holding certain assets (stocks, in particular) to specific governmental actions. Actions such as changes in regulations or tax laws have been extensively studied. However, none of these studies has examined the effects of changes in trade policies on valuations of individual companies.

To apply event analysis to the VER case, we obtained common stock prices for six of the large Japanese auto assembly firms and identified three key events in the original imposition of the VER in 1981. The quota, by reducing auto availability, should have raised the prices of the cars sold. The event study analyzes the abnormal returns of these companies associated with the three events—that is, the abnormal stock price movements for the two April market trading days beginning on the day the event was announced in the newspapers.

One of the variables normally assumed to be important to stock prices is the average rate of return on common stocks, which also reflects interest rate changes. When the changes in the firm's valuation are corrected for the changes in the market rate of return, the remaining so-called "abnormal rate of return" should reflect matters relating to the specific firm and its industry.

Data on common stock prices, including the new Tokyo stock exchange index for a period of 197 trading days (just over nine months) centered on the events between April 21 and June 25, were gathered on the six Japanese auto assembly firms. These firms, shown in Table 3, produced 93 percent of total Japanese auto exports to the United States in 1980. Although they were each part of companies centered around a large Japanese bank, the firms studied engaged almost exclusively in assembling motor vehicles. In comparison to large American auto firms, these Japanese companies obtained the lion's share (75 percent to 100 percent) of their revenues from selling autos and parts, so movements in stock prices reflect investor expectations for the future earnings of these firms from auto industry efforts.

Possible confounding factors, such as the yen/dollar exchange rate, were also considered. These factors did not materially affect the auto firm stock prices. In particular, while the exchange rate could be important if it had

Table 3

EFFECTS ON THE COMMON STOCK VALUE OF JAPANESE AUTO FIRMS DUE TO MITI'S ANNOUNCEMENT (APRIL 21) ABOUT AUTO EXPORT RESTRAINTS

Firm	Firm Value* 1-Apr-81 ($ Million)	Increase Due to MITI's Announcement′	Increase in Firm Value* ($ Million)
Daihatsu	$319.7	10.6%	$33.9
Fuji	$153.7	7.5%	$11.5
Honda	$561.6	9.8%	$54.9
Mazda	$759.5	6.1%	$46.6
Nissan	$3,383.7	14.0%	$474.7
Toyota	$839.1	10.5%	$88.4
Totals	$6,017.4	11.8%	$710.0

*Using the 1981 average exchange rate of 220.1 yen/$.
′The abnormal increase in stock price on April 21-22, 1981.
Source: Same as Table 2.

changed substantially, it was almost constant during the events from April through June.

For all firms, Table 3 shows that the common stock valuations jumped substantially when MITI announced the imposition of the VER in April 1981. The total change in market valuation due to the VER announcement was from 6.1 percent for Mazda to 14 percent for Nissan. The total stock value of these six firms rose $710 million in just two days, April 21 and 22, representing an average increase of 11.8 percent. After accounting for changes in the market average, these large increases in stock prices, immediately following the announcement of the VER, confirm that the VER was the cause.

The effects on stock prices of the other announcements were also analyzed. The official American announcement on May 1 had no effect at all on stock prices. This is to be expected as it merely reiterated the April 21 MITI announcement. The same is true for the June 24 MITI statement on market shares. The details of the system had been continually hinted at in the press and were probably the subject of discussions between MITI and the auto firms for several weeks. Any effects on stock prices had already occurred by the time of the public announcement.

The final event considered, the German VER announced on June 10, did have a large effect on stock prices. Japanese export of autos to Germany is second only to their exports to the United States. The VER reduced Japanese

auto sales in Germany by 10 percent below the previous year. In spite of this reduction in shipments, the effect of the announcement was to boost stock prices—further evidence that Japanese investors perceived that price increases made possible by the strengthened cartel outweighed the loss of unit sales.

Japanese investors perceived that price increases made possible by the strengthened cartel outweighed the loss of unit sales.

After the U.S. and German VER announcements, the stocks stayed at the higher price levels and never dropped back to their former levels. This suggests that the profit implications of the VER must have been widely understood by investors and company officials.

Effects of the VER on the U.S. Auto Market

During the past five years, the VER has had considerable impact on American auto firms, auto workers and the consuming public. Table 4 shows passenger car sales before and after imposition of the 1981 quota. The Japanese market share remained at 22 percent for the first two years as overall auto car sales flattened at 8.1 million. Thus, for the first two years the only obvious effect was that the Japanese market share stabilized instead of increasing further. In spite of the VER, domestic sales fell to 5.8 million cars and 50,000 auto workers were laid off in 1981..

With the U.S. economy recovering in 1983, total auto sales increased 18 percent with all of the gain going to the American firms, their sales rising 26 percent. This was the first sign of market share benefit to American firms. Profits for these American auto makers rose substantially, reaching over $6 billion by 1983, and employment also recovered somewhat in 1983.

However, the near-term prospects for employment in the auto industry to reach the record levels of 1979 (982,200 employees) are remote. The American industry still uses a larger amount of labor to produce a car than the Japanese, thus major efforts are being made to reduce this labor content. If the American industry increases volume in the future, it is still unlikely to expand employment greatly. The issue will be one of numbers: Is the percentage growth in units sold greater than the rise in labor productivity? With a mature car market in the United States and little likelihood for new export markets, this is unlikely to be the case.

Productivity effects also suggest that recent improvements in sales, employment and profits may not be attributable to the VER. The U.S. industry worked throughout the period to raise productivity, achieving a 25 percent increase in labor productivity from 1980 to 1984. Small car production

Table 4

THE EFFECT OF THE 1981 VER ON U.S. SALES OF PASSENGER CARS

Years Before VER*	Total Sales (milions)	Domestic Sales (millions)	Domestic Share	Japanese Sales (millions)	Japanese Share
1979-1980	10.36	7.92	76.4%	1.88	18.1%
1980-1981	8.84	6.46	73.1%	1.89	21.4%
Years After VER*					
1981-1982	8.10	5.87	72.5%	1.78	22.0%
1982-1983	8.08	5.81	71.9%	1.83	22.6%
1983-1984	9.71	7.33	75.5%	1.84	18.9%
1984-1985	10.45	8.00	76.5%	1.92	18.3%
1985-1986					
At Annual Rates					
1st Quarter	11.95	9.09	76.1%	2.18	18.3%
2nd Quarter	11.87	8.87	74.7%	2.36	19.9%
3rd Quarter	9.76	6.68	68.5%	2.47	25.3%

*Each year begins in April 1 and ends March 31, the dates of the VER.
Source: Wards Automotive Reports.

as well as the introduction of the mini-van helped as well. Further, some improvement in quality and workmanship aided American firms as they focused on correcting their image among consumers. Even without the VER, the American firms would have rebounded by 1984 with the economic recovery.

Did the Japanese auto firms benefit from the VER? During the 1982-85 period, their profits rose dramatically. For example, after-tax profits for Honda Motor Co., Ltd., rose from 30 billion yen for the fiscal year ending in February 1981 to 44 billion by 1986—and this was separate from the profits of its American sales corporation.

On the other hand, profits in the Japanese domestic market have been so poor that one Japanese industry analyst has said that even though less than 20 percent of Japanese production is shipped to the United States, these sales are responsible for over 75 percent of profits.[3] Instead of the dumping sometimes complained about by American manufacturers in other industries, the Japanese actually charge lower prices in their domestic auto market than for their American exports.

Prices of Japanese cars sold in the United States have risen substantially during the past five years, as any good economist would project to be the result of an effective cartel. Robert Feenstra of Columbia University estimates the price increase at $1,100 between 1980 and 1984.[3]

Japanese auto price increases have been due to three factors. First, as the quota took effect, Japanese car dealers noticed they could not only charge the full suggested retail price, but could add in larger delivery and other charges. Customers might balk, but since they could not find cars available at other dealers anyway, many paid the premiums.

Second, the automakers began to include more expensive options with the U.S. exports and cut back on their production of less expensive models. This move "upmarket" will be discussed further in the next section. Feenstra has estimated the effect of this quality increase to be about half the total price increase in suggested retail prices alone, ignoring the increase in dealer markups. Third, the manufacturers raised suggested retail prices—the basic cartel result.

Although it may originally have been designed as an olive branch to avoid protectionist legislation, the VER has served to enhance the profitability of the Japanese auto industry.

From this information on price increases and reported numbers on the response of foreign car sales to price, we can obtain an estimate of the quantitive effect of the VER on numbers of Japanese autos shipped. Since the price data are for 1984, the effect on the 1984-85 sales from Table 4 is used. In the absence of the VER, the projected Japanese sales would have been 2.365 million cars, as compared with the quota-constrained 1.92 million. The net effect of the quota was 445,000 fewer Japanese cars sold in America during the fourth year of the VER.

Another argument for the view that the VER operates as a cartel for the Japanese automakers is the decision to continue the VER voluntarily after the U.S. government announced its end in 1985. If the VER was designed by the Japanese industry as a cartel device to raise prices and profits, this behavior is exactly as expected. Although it may originally have been designed as an olive branch offered to avoid protectionist legislation by the U.S. Congress, the VER also served to enhance the profitability of the Japanese auto industry. The Japanese auto industry was quite happy to continue the good times.

Is Continuation of the VER Justified?

Given the current state of the American and Japanese motor vehicle industries and the worldwide nature of competition, what would happen

today without an auto VER? What other factors beyond competition from the Japanese will be crucial to the continued health of the American industry?

From the data and analysis now developed, it appears that the American industry would today be little affected by removal of the VER. Without the quotas, American consumers would be paying slightly lower prices for their cars, both foreign and domestic. Finally, the large profits gained by the Japanese automakers and reflected in capital gains for their shareholders would no longer be earned.

One key reason for the current impotency of the VER is the recent substantial drop in the dollar, relative to the yen. International competition in the U.S. steel industry furnishes an analogous situation. Analysts at the National Bureau of Economic Research and the Federal Trade Commission say their work suggests that the largest single factor reducing steel industry employment during the past 15 years is the dollar/yen exchange rate.[4] Over one-fourth of the drop in steel employment since 1973 was attributed to the rising value of the dollar, especially from 1979 to 1983. Given the similarity of American problems in steel and autos, it is likely that autos have likewise suffered from exchange rate problems that are beginning to reverse themselves.

It is unlikely that the full extent of the yen revaluation will be seen in higher Japanese car prices, since part of the increase will be absorbed in lower profit margins.

If this argument is correct, then the next few years may be ones of significant recovery for the American auto industry. The yen has moved up 31 percent in value relative to the dollar since September 1985. The West German mark, the currency of the other large auto exporter to the United States, has risen 23 percent over the same period. The higher value of the yen and mark should increase the cost (in dollars) of Japanese and German cars and help to make American autos relatively more attractive.

It is unlikely, however, that the full extent of the yen revaluation will be seen in higher Japanese car prices, since part of the increase will be absorbed in lower profit margins. Past profit margins have been so large that possibly only half of the exchange rate increase may be reflected in higher car prices. In addition, a substantial part of the cost of a Japanese car is made up of imported parts. To the extent that these parts are purchased at dollar prices, they are now no more expensive than before in terms of dollars.

There are two alternative ways to estimate the effect on Japanese car prices of the exchange rate revaluation. The first is to use past experience. The 1972 revaluation following the December 1971 Smithsonian Accord, when the yen rose 17 percent, provides this opportunity. Japanese automobile sales in the United States were flat in 1972, ending an unbroken trend of growth.

Table 5

CHANGE IN SUGGESTED RETAIL PRICES OF SUBCOMPACT CARS AFTER THE 1971 SMITHSONIAN MEETING AND SUBSEQUENT CURRENCY REVALUATION

Imports	1971 Price	1972 Price	Price Increase
Toyota Corolla	$1,798	$1,953	8.6%
Datsun 1200	$1,736	$1,976	13.8%
Mitsubishi Colt	$1,924	$2,095	8.9%
Import Average			10.4%
Domestic			
Ford Pinto	$1,919	$1,960	2.1%
AMC Gremlin	$1,999	$2,121	6.1%
Chevrolet Vega	$2,090	$2,060	−1.4%
Domestic Average			2.2%
Relative Price Increase for Japanese Imports			8.2%

Source: Automotive News (Feb. 7, 1972), p. 1.

The effect of the yen revaluation on car prices can be seen in Table 5. The prices of the Japanese subcompacts rose by 10.4 percent, while the American subcompact prices rose only 2.2 percent. With the much larger yen revaluation of the past six months, the effects should be correspondingly larger, giving Detroit a real opportunity to recover lost market share.

Some crude estimates of the effect of the latest exchange rate changes are possible using this past episode. In 1972, the yen dropped 17 percent and car prices fell 10.4 percent. Using this same ratio of change, the recent 31 percent drop should increase the price of Japanese imports by 19 percent. If U.S. car prices rise at the expected overall inflation rate of 4 percent, this means that the relative price of a Japanese car will go up by 15 percent.

The second approach to evaluating the effects of exchange rate movements requires that we first estimate the imported content of Japanese cars. The only estimate available was provided by an industry researcher who stated that about 50 percent of the cost of a Japanese car consists of materials imported from third countries. For the most conservative case, it is assumed that all of this imported cost is paid in dollars and thus will not change. However, this affects only the Freight on Board (FOB) valuation of Japanese cars while the delivered costs in the United States are substantially higher. Shipping costs by firm vary considerably, but approximately $800 to deliver to an American port is a reasonable number, with all of this cost being in yen. If

half the manufacturing costs and this shipping cost rise by the amount of yen revaluation, this would raise prices by $1,225, or about as much as the effect of the VER.

Even using this second rough estimate of the price increase, the effect of the yen revaluation should almost overcome the effect of the VER. By raising costs, the Japanese firms will no longer have swollen profit margins from selling their quota-constrained cars in the U.S. market.

In a 1978 study, Charles Rivers Associates developed an estimate of the effect of prices on foreign and domestic car sales. It estimated that a 1 percent increase in the price of foreign cars relative to domestics would reduce the imported share of sales by 1.33 percent.[5] Using the current Japanese import share of 25.3 percent and the first estimate of a 19 percent rise in Japanese car prices, the import share should drop to 18.9 percent, with a reduction to 20.2 percent occurring during the first year. At the current approximate car sales rate of 10 million, this would mean an increase in domestic output of 500,000 cars during 1986 and early 1987.

Both methods of estimating the effect of revaluation on Japanese import prices suggest the same thing: The VER will be supplanted by market forces that will reduce Japanese auto imports. The important variable will be price, and the American market will be far less susceptible to increases in Japanese imports so long as the yen stays as strong as it is now. In addition, natural barriers such as shipping costs will restrain imports to the Midwest even more than on the coasts.

With the more highly valued yen, foreign firms should concentrate more production for the American market in the United States.

There is another reason to be somewhat sanguine about the effect of the exchange rate changes—at least from the perspective of automobile employment. During the 1970s, Volkswagen decided to avoid the effects of exchange rate fluctuations and to eliminate the shipping costs from Germany to the United States—the substantial rise in the mark following the Smithsonian Accords was a key part of this decision. Accordingly, Volkswagen built a plant in Pennsylvania that by 1980 was producing 41 percent of the VWs sold in this country. Honda, Nissan and Toyota have all made similar decisions to produce their cars in the United States, and Toyota also entered into a joint venture with General Motors called the New United Motor Manufacturing Inc. (NUMMI). In addition, Mazda and Mitsubishi are now building American plants, and Fuji is studying such a decision.

With the more highly valued yen, we should expect foreign firms to concentrate more of their production for the American market in the United States, employing even more domestic auto workers. Their dollar costs will be lower to the extent that they can pay dollars for the production costs of these cars.

The American production of parts for Japanese motor vehicles should like-

Table 6

UPMARKET MOVEMENT OF JAPANESE AUTOS AFTER THE 1981 VER

Year	Total Sales	Basic Subcompact	Large Subcompact	Sporty Subcompact
1980	1,636,099	55.2%	18.0%	25.7%
1981	1,578,089	56.8%	20.3%	21.9%
1982	1,529,987	53.7%	23.0%	22.3%
1983	1,652,128	49.0%	27.7%	20.5%
1983-1st Half	845,896	51.2%	26.9%	20.8%
1984-1st Half	857,276	43.3%	31.0%	22.2%

Source: Wards Automotive Reports, cited by the Secretary of Commerce in a Report to the Congress, December 1984.

wise benefit. American auto parts producers have been trying to crack the Japanese market for several years. The establishment of Japanese assembly plants in the United States encouraged them, but the reality has been that most of the parts assembled in those plants are produced in Japan. The domestic content of these plants is around 50 percent. Much of the rest of the costs is denominated in yen and will rise in response to the 31 percent yen revaluation.

Higher costs for Japanese-produced parts will have two effects. First, while the output of U.S.-based Japanese plants is considered domestic in the data used in this report, the effect on jobs and profits is less than would be true for cars produced by the four original American auto makers. The higher costs of autos produced with Japanese parts will reduce their market share to the benefit of GM, Ford, Chrysler and American Motors. Second, they will try to reduce the percentage of parts paid for in yen by buying more from American parts suppliers. This increase in use of American suppliers may also help U.S. parts suppliers export to Japan.

Even under the VER, the Japanese have been moving into new markets and causing new problems for American car makers. As Rodney Falvey of Tulane University has argued, the expected result of any quantitative limitation on imported units, such as a quota or VER, is that the exporter will shift exports to higher-priced, higher-profit units.[6] The evidence on this is clear as shown in Table 6. The share of large subcompacts increased from 18 percent to 31 percent from before the VER to 1984. While basic subcompact sales fell, the larger cars sold at higher prices and produced larger profit margins.

Academic research tells the same tale as the media accounts: The Japanese have shifted from the smallest and cheapest end of the market into selling luxury compacts and sport cars. Today Japanese imports are competing with a far wider range of Detroit's products.

Conclusion

This study argues that the automobile export restraint negotiated in 1981 between the United States and Japan is not just a concession provided by the Japanese due to their fears of protectionist legislation. Rather, the auto quotas provided major benefits to Japanese firms, benefits that were anticipated by Japanese investors when they were announced.

The system of export quotas maintained by MITI prevents effective price competition among Japanese firms since their market shares are pre-assigned. When market demand in the United States rises, due to whatever cause (a stronger economy, lower interest rates, etc.), the Japanese firms simply raise their prices, and profits increase.

Trade restrictions such as a VER are ineffective as a short-term measure intended to allow domestic industry to prepare itself better for foreign competition. Foreign competition never sits still. Further, domestic firms and domestic labor unions are relieved from the most obvious reason to make the difficult choices—free competition.

Due to exchange rate changes and improved quality and production, circumstances now favor American firms competing with the Japanese. If American car buyers are ever going to stop paying excess profits to the stockholders of Japanese car firms, now is the opportune time. Congress needs to face this reality by insisting on the removal of this Japanese cartel.

Notes

1. Robert W. Crandall, "Import Quotas and the Automobile Industry: The Cost of Protectionism," *The Brookings Review* (Summer, 1984), p. 13.
2. Mori Matsumoto, Vice President of Yamaichi (America) Inc., quoted in *Automobile News,* Japanese Extra, October 22, 1984, p. E-16.
3. Robert C. Feenstra, *Quality Change Wider Made Restraints: Theory and Evidence From Japanese Autos,* Paper 298, Department of Economics, Columbia University, August 1981.
4. Gene M. Grossman, *Imports as a Cause of Injury: The Case of the U.S. Steel Industry,* Working Paper, Princeton University, July 1984; and Douglas W. Webbink, *Factors Affecting Steel Employment Besides Steel Imports,* Working Paper No. 128, FTC Bureau of Economics, July 1985.
5. Eric J. Toder, with Nicholas Scott Cardell and Ellen Burton, *Trade Policy and the U.S. Automobile Industry* (New York: Praeger, 1978, ch. 3).
6. Falvey, Rodney, "The Comparison of Trade Within Import-Restricted Categories," *Journal of Political Economy* 90(1) (December 1979), pp. 1142-65.

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